Water Pollution Control Advisory Council (WPCAC) Meeting
June 28, 2007 10:00 a.m. – 2:43 p.m.
Director's Conference Room 111 Metcalf Building

Call to Order

Chairman Dude Tyler called the Water Pollution Control Advisory Council meeting to order on June 28, 2007 at 10:00 a.m.

Council Members Present

Dude Tyler had everyone introduce themselves, the effect being that the Council members in attendance knew who the alternates were.

Council Members Present: Dude Tyler (Chair), Terry McLaughlin, Kathleen Williams, Michael Wendland, Ed Kelley (alternate), Roger Muggli, John Peterson (alternate), Stevie Neuman, Matt Clifford, and Karen Bucklin-Sanchez.

A quorum was present.

Department of Environmental Quality (DEQ) Personnel Present: Bob Bukantis (Council Secretary) Water Quality Planning Bureau (WQPB), Planning, Prevention and Assistance Division (PPAD); Lynda Saul, Technical and Financial Assistance Bureau (TFAB), PPAD; Ann Harrie, WQPB, PPAD; Robert Ray, WQPB, PPAD; Bonnie Lovelace Water Protection Bureau (WPB) Permitting and Compliance Division (PCD); Claudia Massman, Legal; Todd Teegarden, TFAB, PPAD; Michael Suplee, WQPB, PPAD; Paul LaVigne, TFAB, PPAD; Angie Hayden, (Administrative Support) WQPB, PPAD, Summer Marston, (Administrative Support) WQPB, PPAD.

Audience members included Amanda McInnis, HDR; Agnes Fowler, City of Conrad; Nancy Cormier, Morrison-Maierle, Inc. (MMI); Travis Meyer, MMI; Steve Ruhd, MMI; Craig Caprara, HDR; Becky Beard, City of Conrad; Dave Clark, HDR; Jon Metropoulos, Gough, Shanahan, Johnson & Waterman; Dave Galt, Montana Petroleum Association (MPA).

Approval of Agenda

Dude Tyler asked for additions or changes to the agenda and inquired if any members wished to turn their agenda item into an action-required item. A motion to approve the agenda as written was made and seconded. The motion carried.

Approval of Minutes

Dude Tyler asked for additions or changes to the minutes from March 1, 2007. A motion to approve the minutes as written was made and seconded. The motion carried. Terry McLaughlin requested that in the future draft minutes from meetings be received by Council members as early as possible to allow time for comment back in the event of necessary edits. Kathleen Williams agreed that it would be helpful in the event that an alternate had been sent to the meeting in their stead.

Rapanos Guidance/HR2421

Lynda Saul works for the DEQ on wetlands issues. She gave a summary about two different cases which have now come before the Supreme Court. The Solid Waste Agency of Northern Cook County (SWANCC) case in 2001 dealt with isolated ponds and water bodies, followed by Carabell and Rapanos (two separate cases combined to be called simply Rapanos) about tributaries and adjacent wetlands. These cases are very complex regarding waters that are going to be considered protected under the Clean Water Act (CWA) and what the state's ability is to prevent pollution and maintain the chemical, physical, and biological integrity in the nation's waters.

As it was not clear in how the decision was going to be applied, the Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (USACE) issued a Rapanos guidance in June 2007, a full year after the Supreme Court decision. Kathleen Williams questioned whether "Waters of the U.S." relates to both federal and state jurisdiction. Lynda stated that the state implements numerous federal CWA programs. The DEQ has 401 certification authority which certifies any federal action meets state water quality standards. It is believed that 402 permits are not affected by the Supreme Court decision because the state has its own definition of state waters.

Bonnie Lovelace agreed and stated that a project or possible discharge will either get a 402 permit under the Montana Pollution Discharge Elimination System (MPDES) program or a 401 certification for the project if it does not trigger the MPDES requirement. A project would not have both permits at the same time. What is not affected by this at all is that the definition of state waters is broader. In a 401 certification, the project goes to the USACE, not the EPA, to get their permit, and DEQ comments on that permit as to if it is going to meet water quality standards. This affects which projects come to the DEQ under the 401 certification.

Lynda Saul explained that this is important because of the scope of what is considered federal waters has been reduced by these two Supreme Court decisions. Therefore, what brings about a 401 certification is limited, so many waters may no longer require state certification for the federal permit. This guidance divides what is considered jurisdictional under three separate categories. The first are navigable waters (the Missouri, the Yellowstone, and the Kootenai), major tributaries to those waters (such as the Blackfoot, the Clark Fork, the Marias, and the Judith), and wetlands that directly abut such tributaries and are adjacent to those relatively permanent waters.

The second category is non-navigable tributaries that are not relatively permanent, and they are going to be decided using a significant "nexus test" to decide whether or not these waters have significant nexus (enough connection) to a traditional navigable water such that they would impact the chemical, physical, or biological integrity of those waters. This case-by-case determination of jurisdiction will be looking at flow characteristics, function of the tributary, function of the wetlands, and if this affects that traditional navigable water.

There is also a third category which the USACE interprets as not having jurisdiction, and those include swales or erosional features and certain ditches. The guidance did make a case for ephemeral drainages in the arid west, recognizing that ephemeral streams, tributaries, and

drainages can affect navigable waters, which is different from the east. Those would be decided on a case-by-case basis.

There is a 6-month comment period for agencies and public advisory councils to make comments. Section 402 of the CWA (MPDES) may need additional guidance, so USACE and the EPA are looking for comments on that.

Matt Clifford questioned whether an intermittent stream is one that is intermittent anywhere along its path. Bob Bukantis had asked how these waters were treated under the Rapanos guidance directly to the EPA and the USACE who indicated that they had not given much thought to that relative to this guidance. Under Montana state law, an intermittent stream is one where you have perennial pools disconnected by dry stretches. Those are considered permanent waters of the state, and the same water quality standards apply to those pools as to perennially running streams. There is a relaxation of protection in ephemeral channels where the water runs only in response to snowmelt and rainfall and does not go below the level of the local water table. Bob stated that there are concerns for these long-term. Currently, it is clear that we have protection under state law for these waters. Matt Clifford stated he feels this needs to be a major part of the state's comments. Lynda stated that the USACE and EPA are also thinking and writing this guidance from an East Coast perspective where streams flow year-around. Therefore, we really need to make sure that we are protecting the integrity of our water quality out here in the west.

Terry McLaughlin asked if irrigation canals are a part of this. Lynda stated that these fall under the exemption rules and are not considered federal jurisdiction. Bob added that, for purposes of water quality standards, these are considered waters of the state unless the water is completely consumed within the system. Lynda also stated the new NPS Plan identified that about 70% of Montana waters are were intermittent to ephemeral, a significant portion that would fall under this case-by-case. A resulting concern is the workload by the USACE and the EPA to determine whether or not waters fall in or out of federal protection.

Lynda passed out handouts regarding the CWA definition of "Waters of the United States" which refers to both this Rapanos case and also about the SWANCC case.

Stevie Neuman asked about comments from the other states. Lynda stated that New Mexico is concerned about the limiting of the scope of the CWA. Some states have their own wetland protection, so their wetlands are protected. We are among the majority that does not have wetland protection. There is concern about tributaries as well. Stevie asked if that would be presented before the national conference of state legislators. Lynda stated she did not know if it would be presented.

Lynda went on to discuss HR2421 which was introduced this year for the third year. This bill by Representative James Oberstar from Minnesota basically negates these two Supreme Court cases and goes back to the original intent of the 1972 CWA by changing the definition of "Waters of the U.S." from traditionally navigable waters to a much broader subset that just lists out waters. This Clean Water Restoration Act of 2007 explains why headwaters, tributaries, and wetlands are so critical to downstream. In the new bill "the term 'waters of the United States' means all

waters subject to the ebb and flow of the tide, the territorial seas, and all interstate and intrastate waters and their tributaries, including lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, natural ponds, and all impoundments of the foregoing, to the fullest extent that these waters, or activities affecting these waters, are subject to the legislative power of Congress under the Constitution." Senator Feingold is introducing a companion bill in the senate that basically mirrors this. Montana has supported this federal consistency of the CWA by signing on to the Amicus brief supporting the federal government in the Carabell-Rapanos case and in our comments in 2004 to the Advanced Notice of Proposed Rulemaking. Governor Schweitzer has written letters asking Tester, Baucus, and Rehberg to cosponsor and support this House Resolution 2421 and also Feingold's in the senate.

Stevie stated that attention should be paid to Montana because we are a headwater state. Lynda stated that Representative Oberstar has requested that Governor Schweitzer testify in front of the hearings that will be held nationally on July 17 and July 19.

Terry McLaughlin asked if this legislation passes renders the Supreme Court's decision moot. Lynda stated that it does for both decisions and goes back to the intent of the CWA. There is also a savings clause in HR2421 which states "nothing…shall be construed as affecting… the following (types of activities): Relating to discharges of ag return flows, to stormwater runoff from oil, gas, and mining…" Exemptions that were already in the CWA are still in.

Karen Bucklin-Sanchez asked if the state was contemplating any kind of action, or waiting to see what happens at the federal level. Bonnie Lovelace stated that the agencies are getting involved in the legislation and looking at the guidance, but not a lot of changes from a permitting side. The 402 (MPDES) program is really not affected, and the definition of state waters keeps us covered. The 318 authorization pertaining to turbidity might cover some of these sites which are issued to a lot of the same projects that come to us from the USACE. However, we do not have a tool to cover places that go dry. If there is water in that site when the activity is occurring so that turbidity is an issue, we have it covered. If it is dry, we do not have jurisdiction under the 318 authorization. Bonnie does not feel there is anything alarming at this time in the sense of a change in our business that anyone should be watching for, but stated the whole issue is a big issue. Lynda also stated that Bob Bukantis is taking the lead on that for DEQ in planning to prepare some state comments.

Terry McLaughlin asked if the 70% of intermittent or ephemeral is in terms of flow, volume, surface area, etc. Lynda responded that it is in terms of stream miles.

Dude Tyler asked if anyone had comments. He stated that, while this is not an action item, this is a policy-making committee, and he felt it would be appropriate if there was a move to offer support to the Governor's office and our representatives. Stevie Neuman asked if the Board of Environmental Review (BER) has done any decision-making on this already. Bob Bukantis stated that, as far as he knows, this has not come up before the BER, and the Department might bring rulemaking to the Board. Stevie suggested that the committee could give their consensus, and they could then move forward from there. Bob stated that WPCAC could bring it up to the Board. Terry McLaughlin asked if Stevie was thinking of something like a resolution from the

Council, and Stevie said it would be advantageous. Dude stated that WPCAC is a policy advisory council. Kathleen Williams asked if WPCAC's role was to advise DEQ or to advise the Board. Bob said it is to advise DEQ. Kathleen said it might be more powerful if we sent a statement to the Board and involved the Board but also asked if WPCAC could endorse the agency's action on its own as WPCAC may have a more direct line. Terry stated WPCAC could have a resolution that lends support but typically the Department will let the Board know the position WPCAC takes. Matt Clifford made a motion to endorse the Department's position in this matter. Terry McLaughlin seconded. Dude Tyler requested a voice vote. Motion carried unanimously.

Meeting Notes

Bob Bukantis requested that travel reimbursements be turned in by July 6, 2007.

Online Delivery of Meeting Materials

Bob Bukantis walked through instructions for obtaining meeting materials online through DEQ homepage → Advisory Councils → Water Pollution Control Advisory Council.
Matt Clifford stated an email with links to the site would work, as well as to remind members that the meeting is coming up. Dude Tyler asked if the link was in the email signatures from Summer Marston. It is not currently, but Summer stated she will do so. Kathleen Williams requested that DEQ "think about" materials they will have to mail out to prevent documents from becoming too voluminous.

Bob asked if it would be useful to both email links and continue to send out hard copies. Terry McLaughlin stated it would be within reason for any given member to request hard copies, and that the Council is willing to be flexible and sensitive to manpower requirements, postage, etc. Bob paraphrased that DEQ can email link or electronic versions and respond to special requests for hard copies.

Conrad UAA

Dude Tyler began by requesting definition of Use Attainability Analysis (UAA). Ann Harrie is with DEQ Water Quality Standards Section. UAA is, according to the Administrative Rules of Montana (ARM), "a scientific assessment and analysis of the factors affecting the attainment of a use" using chemical, physical, and biological data as well as photo documentation. A UAA is required by EPA any time a water body classification downgrade is requested. Dude asked if the City of Conrad was asking for reclassification, and Ann stated they were. Dude asked if this request is in front of BER. Ann said it is not currently, but will be.

Ann began her PowerPoint presentation on the Conrad UAA. The City of Conrad has a wastewater treatment plant that flows directly into an unnamed tributary that flows into the Dry Fork of the Marias River. Both the unnamed tributary and the Dry Fork of the Marias River are part of the Marias watershed and are classified B-2. The suggested reclassification to an ephemeral E-2 stream came up in a March 2006 meeting between the City of Conrad and the permitting section of DEQ. Regardless of the outcome of the reclassification, they will have to upgrade their old system. They requested the E-2 classification because it would diminish requirements for their permit.

A classification downgrade requires that it be proven that a water body was originally misclassified. The unnamed tributary was originally classified in 1955 as a B-2 water. In the early ‘80s, the Dry Fork of the Marias River was reclassified to B-3 from I-15 all the way to the Marias River. Biologists from Fish, Wildlife, and Parks (FWP) presented the EPA with information that salmonid fish, which were part of the B-2 classification, could not survive due to the high water temperatures.

The main objective was to determine whether this was an ephemeral or perennial stream. In addition, the team wanted to determine any existing potential uses the unnamed tributary was capable of supporting.

A handout was given of an aerial photo of the lagoons, slide 7 of the PowerPoint Presentation, as well as the unnamed tributary. The sites were on the map. DEQ did a preliminary site visit in April of 2006, and just slightly downstream of the discharge pipe the team found Brook Stickleback fish.

Flow measurements were taken at each site every month the team was there. FWP helped with electro-shocking, and fish were collected all along the unnamed tributary, as well as in the Dry Fork of the Marias River. Temperature loggers were placed in five of the six sites, and numerous photos were taken to document conditions. Water samples were also taken any time there was water. The study was conducted from June to October of 2006.

For most of the study months water was observed flowing from the unnamed tributary to the confluence with the Dry Fork of the Marias River. Fish were often observed moving between the two water bodies.

Ann stated that there were numerous fish in the Dry Fork of the Marias River downstream from the confluence. Dude Tyler asked if there were salmonids, and Ann stated that they did not find any. Specifically, no observable changes were noted in the conditions of the Dry Fork of the Marias River all the way from Highway 91 to I-15. We think that I-15 on the Dry Fork of the Marias River was used as a reach break because it was an easy landmark.

July was the last month we were able to collect electrical conductivity (EC) readings above the lagoons as it was dry the other 3 months. The discharge pipe and below the lagoons were pretty similar as far as EC readings. The EC was then significantly higher in the tributary below the stream, contributing to the conclusion that this other source is contributing water. It was suggested that the difference in EC could have been because of pooling water, however, any time that there was water in this it was flowing at a pretty good speed. Karen Bucklin-Sanchez asked why there was no water in the tributary below the spring in August. Ann stated the temperature loggers showed that it went dry in the middle of August and it received water again in the beginning of September. Dude Tyler asked what EC represents and why it is measured. Ann stated EC is a measure of dissolved solids. She stated it would be expected to be high from the lagoons, and the data showed that it changed throughout the tributary.

Above the lagoons the unnamed tributary went dry right after June. Lagoon discharge declined through the middle of the sampling period, subsequently increased and was highest in October.

Flow results suggest that the increase in discharge had almost no impact below the lagoons. However, there was an increase of flow in the tributary below the suspected spring in October. Again, this ties into why the team thinks that there is another source contributing to the flow of the unnamed tributary.

Temperatures ranged from 9.5-38.2° C (which is close to 100° F) above the lagoon to 32° C below the lagoons, and the temperature below the spring dropped to 1.2-30.6° C. Downstream and upstream of the confluence of the Dry Fork of the Marias River, temperatures ranged between 4.9-32° C. The very high temperatures support that the B-2 classification between I-15 and Hwy 91 is inappropriate. The lethal limit for Brown Trout is 27.2° C, for Rainbow Trout 24.3° C, and for Westslope Cutthroat is 19.1° C. Therefore, the temperatures in the Dry Fork of the Marias River were too high to support salmonids.

Matt Clifford asked if the goal was to determine what the actual temperatures would have been when it was first classified, or what they would be in the absence of human intervention. Ann stated it was to document what the conditions are because this is a very typical prairie stream, and a B-3 classification seems more appropriate for this area. Kathleen Williams then asked if Ann was trying to determine from today's information whether had been misclassified in 1955. Ann stated that the UAA is the only tool for reclassifying, and DEQ can only use the data to try to support that they think it was misclassified back in 1955. Matt also asked if the question was what the stream would have been capable of under "natural" conditions of attaining these uses or supporting cold water fish in 1955. Bob Bukantis said basically that we are trying to answer the question of whether this was capable of supporting salmonids when it was originally classified to support the reclassification. Because pre-55 information is not available, all the team can do is look at what we have now and come to an agreement with the public that this is the most appropriate classification for this water.

Terry McLaughlin asked if the Dry Fork of the Marias River had flowing water in it. Ann stated that it did throughout the full assessment. Terry then asked if the discharge from the lagoons was continuous, or if they just discharge in the spring. Ann stated that her understanding is that it is a year-around discharge, although it is lowered significantly during some months. Paul LaVigne (DEQ), and stated that it is a continual, relatively constant discharge.

Steve Ruhd (Morrison-Maierle, Inc.) stood in the audience and stated that he had operated that lagoon for 27 years. They quit discharging in the springtime, for the last 10 or 15 years, around the first of March until about the end of April, sometimes lasting until July, just to keep the stream from drying out. He stated that it does dry out, and that in 2000 the Dry Fork of the Marias River at the confluence was dry for about a month. Stevie Neuman asked if it is considered an intermittent. Ann stated that the influence of the spring just upstream of Site 3 led the team to believe it is, as well as the pooling of the water outside of the lagoons. Stevie asked if the Dry Fork of the Marias River is intermittent, and Ann stated it is considered intermittent.

The team is suggesting that the stream be reclassified as a B-3, and that the cutoff of the B-3 for the Dry Fork of the Marias River should be moved up to Highway 91 rather than I-15. The City of Conrad supports this classification because a B-3 on their permit will allow more relaxed ammonia standards. The other option is to retain the current B-2 classification.

Matt Clifford asked why a reference reach was not used. Ann Harrie stated that it did not seem necessary at the time, but that it might be a good thing to incorporate into the project.

Kathleen Williams asked if the conditions in 1955 would have been much different, and what consideration was given to the difference in time. Ann stated that the data through the UAA indicates it was historically a warm water prairie stream. Especially with the name Dry Fork of the Marias River, one would assume that that area probably did go dry in certain areas and there would be a more tolerant fish assemblage. Matt noted that temperature could be influenced by removal of riparian vegetation and asked if they knew what the state of riparian vegetation would have been before 1955. Ann stated she was not able to find any information about that area. Matt stated that a lot of prairie streams in 1955 were not in very good shape, and that the point of the CWA was to try to improve these. He does not want the stream to be locked into a classification where it will never get better than it was in 1955.

Stevie Neuman then asked if Steve Ruhd from Conrad could offer more information supporting the E-2 classification. Mr. Ruhd stated the unnamed tributary is supported by stormwater runoff from the City of Conrad. There are a number of man-made wetland areas, including the Deets Pool that Ann had included in her presentation. Mr. Ruhd stated this is an area that was dammed in 1928 when the City of Conrad built a septic system. The culvert that goes under the interstate is part of that. The other waterflow that goes into the unnamed tributary is irrigation runoff from the golf course, and there is occasionally some spillage from the irrigation canal. If all of those things were taken away, that stream would be dry just about 11 months out of the year. Stevie asked about the tributary on the map that comes in before Site 3. Mr. Ruhd stated that upstream from Site 3 there is a small reservoir upstream which leaks a little bit with occasional flow. Matt Clifford asked if there were irrigation diversions upstream of the unnamed tributary. Mr. Ruhd stated that there were not. There is a place where the canal crosses the unnamed tributary, and there is some leakage in that area. Stevie asked about the wheel system. Mr. Ruhd stated this water comes from the Pondera County Irrigation Company canal and reservoir to the west. Stevie asked if that drains into the unnamed tributary. Mr. Ruhd stated it is diverted across the hill and that it is pretty much used up.

Dude Tyler asked if DEQ staff needed a recommendation from the Council, and Ann stated they did not. Bob outlined a couple key decision points: (1) Whether there is enough water or lack of water to justify going to an E-2 classification. It is believed that there is enough water that needs protection as perennial water. This does not mean it needs to be flowing all the time, just that there is something more than surface runoff and snowmelt. (2) If this water has ever been capable of supporting salmonids as would be expected under B-2 classification.. Matt Clifford stated that his understanding of “attainability” means if it has ever or could ever attain that level. Matt stated he is not comfortable voting on this issue until he knows the answer to that question for this water. He is not saying that other people should not vote for it, as the merits of it seem good. Dude stated that, as he understands it, WPCAC remaining silent on this issue does not hinder the forward progress of this UAA. Bob stated that the intent of this item is as more of a “heads up” at this time.

Karen Bucklin-Sanchez questioned whether there was a standard time frame for a UAA. This study was only 5 months. Ann stated there is no standard for the time span of data collection. The reason June-October was picked was because the team wanted to capture the driest months of the year to determine whether it was an ephemeral stream or not. The temperature loggers recorded continuously from June until they were removed in the middle of October. Flow and water samples were only taken once a month.

Terry McLaughlin asked when the lagoon system was built. Steve Ruhd stated two pools were built in 1952, and the other was built in 1974. Terry also inquired as to if there was a table, such as the one from the PowerPoint presentation, that shows all Montana classifications. Ann stated there is one, and Bob stated there is information on the website. This table is a simplification of what is in the standards.

Stevie Neuman asked if anticipated economic activity would affect this system. Steve Ruhd confirmed that it would probably go into this system. Stevie asked if there was another contract that is going to bring some people into Conrad that is east of town. Mr. Ruhd stated if they did anything out of the east site, it would have its own system. Nancy Cormier from Morrison-Maierle, Inc., stated the City of Conrad has a new permit and are in the process of designing upgrades to this facility. The level of treatment that will be required is of concern, and that is why the reclassification came up. The city is committed to doing some level of ammonia treatment, however, and is questioning whether there would be any flow upstream without the discharge from the city's wastewater treatment plant. Also, Ms. Cormier asked if the UAA will be open for public comment.

Bob stated that right now they are not proposing any action, but are trying to be sensitive to the city's request to get this issue quickly resolved and plan to bring this as a rulemaking item to the next WPCAC meeting. It would then be brought up to BER. There would be a public hearing, a public comment period, and the proposed rule would be published in the administrative register. There would be a lot of opportunity for public comment by all interested parties. The final decision maker on this at the state level would be the BER, and it would ultimately require approval by the EPA.

Dude reiterated Ms. Cormier's question on if there would be water in the unnamed tributary without the discharge. Nancy added that there was one site upstream in the UAA that had dried up. Ann Harrie stated that downstream of the lagoons, around Site 3, the flow of the unnamed tributary is supplemented by the discharge; however, the data shows that there are portions of it where there is perennial flow as a result of groundwater. In October when the discharge was the highest, there was a decrease in flow downstream but there was an increase in flow right below that spring area. Even with the highest discharge, the unnamed tributary seemed to be doing something on its own.

Matt Clifford asked if DEQ has done a UAA before. Bob stated he could only think of one in which the water classification was raised. Matt stated it is different if you are raising classification than lowering, and because it is a tougher choice. Bob added that they did not want to prejudge the end result, but to find out what the water is capable of supporting. Terry stated the memo language was confusing stating "review of the flow data from the unnamed tributary

indicates that since the channel does not appear to be ephemeral in the absence of discharge." Ann Harrie stated that even without the discharge from the lagoons, it would be a perennial stream, not ephemeral.

Dude then stated that the people from the City of Conrad could give a statement during the public comment period. Agnes Fowler from the City of Conrad stood to comment. She stated they would like to be positive pioneers in this. A year ago the system upgrade was estimated at $1.7 million and is now estimated at $3.3 million because of the regulations they must meet. They understand and appreciate the importance of the regulations, but also are looking at the cost to their rate-payers. The City of Conrad was allocated a $500,000 Treasure State Endowment Program (TSEP) and is set to receive $500,000 of STAG money. There are just not enough people to spread the remaining cost out to in order to make it affordable. The City of Conrad put an 11% increase in their sewer rate a year ago. In April, they implemented a 5% increase. They are still looking at an additional 37% increase. Somehow the financial part needs to be tied to the testing requirements. She stated the email addresses for the engineers are on the sign-in sheet, and they would be more than happy to discuss this at any time.

Roger Muggli asked how big Conrad is, and Ms. Fowler stated the last census was about 2,600 people. Dude asked how many were served by the sewer system. Ms. Fowler stated there were about 1343 EDUs.

Dude asked for change in agenda to allow Robert Ray to present his NPS Management Plan prior to Dave Clark's presentation of Nutrient Standards, and this change was accepted by Mr. Clark.

Nonpoint Source Management Plan

Robert Ray is the Section Manager of the Watershed Protection Section of DEQ. He began his PowerPoint presentation on the Nonpoint Source Management Plan.

Nonpoint source (NPS) pollution is the largest contributor to water quality impairment in the State of Montana. NPS pollution is implicated in at least 90% of the impaired rivers and streams and over 70% of the lakes, reservoirs, and wetlands. NPS pollution is comes from diffuse sources, and is associated with human activity on the land. The specific pollutants themselves include sediment, nutrients, temperature, and heavy metals which get into the surface water and ground water through infiltration, surface water transport from storms and snowmelt events, and through direct erosion and aerial transportation.

The NPS Management Plan (Plan) is required in Section 319 of the Federal CWA. We have had a NPS Management Plan since the CWA Reauthorization of 1987, and current EPA guidance requires states to review their plans every 5 years. The DEQ gets approximately $2.5 million of federal funding from the EPA that can be used to address NPS pollution.

The NPS Management Plan was written to inform Montana citizens about the causes and effects of NPS pollution and to set the priorities for controlling NPS pollution on the statewide basis. The Plan identifies long-term strategies for restoring water quality, as well as short term actions to protect water quality that is meeting the standards.

The DEQ began internally identifying needed changes in the Plan in about 2005. The public involvement process was facilitated through the Montana Watershed Coordination Council, which is a group of agencies and watershed groups. There is a subgroup called the Water Activities Work Group (WAWG). WAWG was instrumental in providing feedback in 2001 update and again to update in 2005, 2006, and continuing into 2007. In addition, DEQ NPS Program staff contacted specific cooperating agencies and entities to talk about different sections of the Plan.

The draft document was released on April 6, 2007 with a 30-day public comment period, during which time there were three public presentations. DEQ received approximately 30 formal comment letters and/or emails, as well as a number of agency contacts, and comments were incorporated in the final Plan that has now been submitted to EPA for approval.

There is now an executive summary, which the old Plan did not have. There is a 5-year action plan table which includes measurable outcomes. Long-term strategies were identified. The Plan will provide information to help the public better understand the NPS program, and how entities can participate in addressing NPS pollution. There is a separate section now addressing NPS education and outreach, which is a critical program component. The most critical part of the program is reaching out to people and giving them information that will allow them to alter their behavior in ways that address their needs while also protecting the water resource.

The Plan also directs 319-specific funding over the next 5 years with the 5-year action table. Also, there are a number of appendices. For example, there is an appendix that identifies different types of state natural resource funding and how to access those types of programs. In addition, Best Management Practices (BMPs) are provided in Appendix A of the Plan are for agriculture, forestry, urban/stormwater, transportation, etc. The Plan also has a ground water quality strategy in Appendix B.

Dude Tyler asked if there was a link to that information, and Robert indicated the link to the web page was on the last slide of the presentation.

The 2001 Plan is on the NPS Program website, however, the draft is also on the site. The final, which includes all of the public comment and how it was addressed, will be put up when EPA approval is received. Robert's telephone number is 444-5319.

Karen Bucklin-Sanchez asked if cities and towns can apply for the grants, and Robert said they can. Dude asked if an "about-to-be-formed" watershed council would be interested in talking to Robert, and he stated they could and they could even possibly receive a grant.

Perspectives on Nutrient Standards

Kathleen Williams is on the board of the Greater Gallatin Water Council and was contacted by Tom Adams who runs the wastewater treatment plant in Bozeman because of concerns with the Nutrient Standards which were discussed at the March WPCAC meeting. She suggested that this be addressed to WPCAC.

Dave Clark, National Director for Wastewater for HDR Engineering, gave a PowerPoint presentation relating to the Numeric Nutrient Standards.

Mr. Clark stated that he felt the presentation by Mike Suplee gave the Council at the March meeting provided a good characterization of the situation in the state and nationally. He stated that the numeric nutrient standards would reduce the state's time and effort to establish TMDLs and permits to control nutrient levels, and these standards are directed right at the wastewater utilities that are point source dischargers in the watershed. HDR is aware that DEQ is being encouraged by those at EPA headquarters to move forward with the numeric nutrient standards.

The instream targets for nitrogen and phosphorous are extremely low, lower than the capabilities of treatment technology, if these Numeric Nutrient Standards are to be applied "end-of-pipe", and there are circumstances that could lead to that.

The utilities rely on surface waters for management of effluent. HDR feels that these companies tend to be overregulated because they have such strict compliance requirements and monthly discharge monitoring reports. If only the point sources are controlled, some dysfunctional things could result, and water in Montana will not be cleaned up by regulating the point source dischargers alone. Taking the discharged water out of the streams may not be the right thing to do because there might not be any liquid left in the streams in some areas of Montana. HDR also states that Numeric Nutrient Criteria have an ability to skew development patterns and result in things that were maybe not anticipated.

Wastewater utilities are characterized as polluters a lot of times, however these facilities make mass load reductions. These commitments have large financial implications. It is hard to make changes quickly, often impossible financially. A change that occurs in a 5-year permit cycle is very inconvenient for public works officials when they are implementing a 20-year program. They want to ensure that the load allocations do not take them to areas that the level is beyond the treatment technology because of a misunderstanding of what can be accomplished in the watershed. HDR is looking for commitments from DEQ to help utilities do the right things to manage nitrogen and phosphorous over the long term, and not just one 5-year permit cycle.

Mr. Clark said that Mike's presentation in March noted that the numeric nutrient criteria are likely to result in very low nitrogen and phosphorous concentrations, 0.5 mg/L for phosphorous and 0.3 mg/L for total nitrogen. Upper Rocky Mountain streams may warrant those kinds of targets, but that may also be problematic, especially when streams are disturbed or in effluent-dominated streams where the wastewater is the key component. Most of the clients in the state are discharging secondary effluent. The limits of technology are 0.05-0.07 mg/L on phosphorous and 3-4 mg/L on nitrogen. There is quite a difference between the instream targets and the limit of technology.

Matt Clifford asked about land app and wetlands. Mr. Clark stated that he was thinking more of activated sludge treatment facilities at major utilities, such as Kalispell and Missoula. He said that at the limits of technology there are unknowns that the regulatory agencies and the treatment technologists do not understand. Pilot testing of a water treatment plant on the end of a wastewater plant was done, and the results are between 0.02 and 0.08 mg/L of phosphorous

amongst the four best treatment technologies available under very controlled conditions, however, this cannot be done at full scale. There is a great deal of variability, even among these treatment technologies. There are claims that some of the technologies are able to do things at less than 10 ug/L. That is not the case, but if sampling is only done a couple times a month, it could be the result.

Mr. Clark also stated that there are some things that cannot be removed from the wastewater, regardless of the technology. There is a refractory component of dissolved organic phosphorous and dissolved organic nitrogen. Research is being done as to whether it is bioavailable or not. Things that are difficult to lower at discharge may not matter anyway because they may not be bioavailable.

It is fairly economical to do secondary treatment. It is reasonable to do biological nutrient removal. Enhanced levels and limits of technology are much more expensive. It may not make sense in terms of the whole watershed picture to spend all of the community's money on one source and not control others.

Even if numeric nutrient criteria are established, it does not mean that those nitrogen and phosphorous concentrations fit all situations because there are so many other dynamics in a flowing river system that governs how much nuisance algae is growing, such as sunlight, substrate, grazing, temperature, etc. Therefore, there is a potential to have some unrealistic targets based on natural conditions. Examples were given of Paradise Creek on the University of Idaho campus, which is in a position that they cannot discharge, and the Truckee River which flows from Lake Tahoe, which dead ends in the desert and the compliance point is set downstream from the Derby Dam.

Interpretation of the instream criteria is very important because it translates to the waste load allocations that come out of TMDLs and to permit requirements. Mr. Clark stated he is wondering if there needs to be different classifications for the areas where they are actually discharging.

Mr. Clark feels it is not very satisfying, practical UAAs should be streamlined and matched up with numeric nutrient criteria. The process now is very cumbersome and expensive and there are no assured outcomes. Variances may be issued, however, commitments to facilities and capitalization are 20 years or more, so they are looking for a comparable variance. Often the ambient condition of the streams exceeds the numeric nutrient targets. The choices are either to not discharge, to apply the instream standards end-of-pipe, or it could be possible to find something in between where there is a way that the receiving water condition, the limits of technology, and the economic implications could be taken into account.

Dave Clark cited an example of a TMDL from the mid 1990s in central Idaho. It was the first 303(d) in the State of Idaho. The one point source discharger in that system got a zero discharge permit. They attempted to capitalize a large winter storage reservoir until they could go to land application in a high mountain valley with a short growing season. The end result is that the community is considering bankruptcy. Mr. Clark did state that this was not all with the TMDL,

and that there was some poor decision-making and multiple lawsuits. However, he stated it is possible to set these things up in a way that communities cannot comply with.

Mr. Clark then cited an example of instream standards applied end-of-pipe in Washington on the Spokane River. The phosphorous requirement is the most challenging in the entire country at 8-9 mg/L of dissolved oxygen (DO) to meet state water quality standards in a flowing stream. There is about a 120-mile stretch of the Spokane River with dams and hydroelectric projects. It was a struggle to get 8 or 9 mg/L in the flowing stream going through downtown Spokane where there are waterfalls. In Washington there is an allowed anthropogenic effect of 0.2 mg/L, so all the loadings into the Spokane River from the point and nonpoint sources cannot exceed a total impact of more than 0.2 mg/L of DO. Therefore, an upstream lake was selected that had about 10 mcg/L of phosphorous to be the standard. Because there is no water for effluent dilution, the instream nutrient target for phosphorous was applied end-of-pipe.

Mr. Clark went on to cite an example of a TMDL on the Clark Fork. The group came up with a way to determine appropriate instream standards. Alternatives were evaluated so that the waste load allocation targets could be met instream and still be within a range of practical solutions for the point source dischargers. This was a very successful TMDL, was characterized as one of the success stories of the country, and the EPA has it as a case study. However, Mr. Clark stated that if they took a strict interpretation of Numeric Nutrient Standards, they would not have made it.

Mr. Clark went on to list what the EPA says about qualifying as an economic hardship. Less than 1% impact for pollution control expenditures of the median household income is not considered hardship. Between 1% and 2% requires more analysis. Greater than 2% is considered unreasonable. Examples of current rates were given, and Montana has rather low rates by comparison to other areas. When compared to the current rates, 1.5% of the median household income for Bozeman's would result in a rate of approximately 170% existing rates. Companies need to be able to make decisions now on capital programs, and the economic thresholds need to be determined to know what is required.

Strict Numeric Nutrient Standards can result in development occurring right outside of the areas that do the heavy lifting to remove the nitrogen and phosphorous. A lot of development is occurring in Montana right out at the perimeter of these service areas because it is less expensive to develop and the standards are very dissimilar. There is a disparity of what is required for point source dischargers and development of on-site septic systems and community systems that discharge to groundwater. All the progress made by point source dischargers would be absorbed by suburban sprawl and septic systems. Matt stated that some of HDR's biggest clients are big advocates of doing something about that. Dave Clark stated that they did quantify an NPS load of the septic systems and there was a reduction made. It did change the development patterns in Missoula and the county, and a large area was sewered.

Discharge limits and the translation of the instream criteria to TMDLs was then discussed. Mr. Clark stated it is very difficult to penetrate the permit writers' perspective so that permit limits that come out are appropriate. The longer averaging period for flows, in Mr. Clark's opinion, was one of the key things that made it possible for the whole wasteload allocation on the Clarks

Fork to work. However, the permit writing group would default to values which are not appropriate for nutrient enrichment.

Dave Clark then presented information on one of the best nutrient removal plants in the country, the Durham Plant south of Portland, Oregon. The facility operates seasonally with what used to be the strictest effluent phosphorous requirements in the country at 70 mcg/L. The plant is capable of reaching this, but the level is scattered, not over a long averaging period. Day in and day out there is a great deal of variability. Maximum daily limits for nutrients set a cap that is lower than technology will allow, so the limits need to be set on longer averages which would not take you out of compliance because of one high day.

The effluent can be reused in beneficial ways, but these are not available for all of the effluent the Montana communities are creating. If TMDLs are applied carelessly and numeric nutrient limits are applied for the entire year, positive and beneficial recycling of valuable water will be defeated. Some states are helping promote the general public's acceptance by promoting demonstration projects to show how the water can be reused, how the public health is protected, and that something positive is done from the standpoint of water resources management.

Mr. Clark's recommendations were:

- A judicious application of the Numeric Nutrient Standards that accounts for real stream conditions in the communities where they discharge;
- Advanced planning for realistic stream conditions to avoid those unintended consequences;
- TMDL waste load allocations and permit limits that recognize the limits of technology;
- Advance the consideration of reasonable thresholds for the economic hardship;
- Agreement on what the permit conditions are and lengthen beyond 5 years.

Karen Bucklin-Sanchez asked Mr. Clark about the smaller communities, the impact of weather and long winters, and the unintended consequences. She works with communities that are interested in reuse. If the reuse is a golf course, then it might have a higher nutrient impact than even a sewage lagoon. She also asked about the best available technology considering those other areas.

Mr. Clark addressed the question of household median incomes in smaller communities and that the thresholds may be lower because the median income may be at a lower level. The infrastructure also adds a challenge. Oftentimes they do not have the kind of appropriate treatment facilities that will be easy to modify to accomplish nutrient removal. In one permit cycle a change in technology is impossible. Firm reference points and time are needed so they can make longer term commitments. There is also the argument about whether or not smaller communities should have to do nothing for nitrogen and phosphorous control

Regarding the question of weather, Mr. Clark stated there will not be uses to divert all year around from receiving waters. There are challenges in the winter because the facility needs to be oversized if nitrogen and phosphorous need to be chased in January, which generally does not happen. Therefore, the nitrogen and phosphorous criteria can be carelessly applied to make facilities a size that may be unnecessary.

Regarding the reuse, Karen stated that some reuses are better than others and they require a lot of partnering. Mr. Clark stated he feels that reuse is generally very positive. There can be unintended disincentives for reuse depending upon how the surface water, nutrient standards, TMDLs, and permits are set up. If critical water quality periods are narrowed down to periods in the summer and it is economically attractive to utilities to make high quality, class A reclaimed water and divert it during a limited period in the summer, they will do it. If that distribution cost can be offset by some part of the advanced treatment requirement, they will do it. Golf courses are very positive for reuse. They want reclaimed water. They can recycle the nitrogen and phosphorous, they do not have to fertilize as much, and it can even be a revenue source for wastewater utilities.

Matt Clifford agreed with many of Dave Clark's points; however, while cost is really important and can be considered in some places, in some others it cannot. He agrees that streams are already polluted by nonpoint sources, and that it is not fair to point source dischargers. He feels that getting serious about NPS pollution should be another option in Mr. Clark's list. Matt stated that he works with a lot of point source dischargers that are in difficult compliance situations. All the options need to be on the table, including more funding. Mr. Clark agreed, however, stated that utilities are faced with very near-term decisions. These considerations could change what they decide to do with the effluent. The efforts to develop the Nutrient Standards and some of the policies that go with it are coming too slowly with too vague of reference points for utilities to make these decisions. Matt stated that you cannot start attacking the science because that will not win in the long term and it will cause conflict and tie up the clients longer. Mr. Clark stated he is not trying to throw rocks at the science, however, he is questioning whether it is appropriate to apply 50 mcg/L phosphorous and 3 mcg/L nitrogen on Prickly Pear Creek because there would not be water in it between here and Lake Helena if it wasn't for the treatment plant discharge. Granted, the treatment plant should do some different things, however, it does raise the question of what is appropriate.

Kathleen Williams asked if Mr. Clark could write up a memo on looking further into the suggestions for effluent reuse standards and DEQ support for recycling, and Mr. Clark stated he could. Paul LaVigne stated the DEQ is working on this.

Bob Bukantis commented that the Department is not taking simply a "pure science" approach. In addition to applying the science to developing what are appropriate numbers to protect the beneficial use, we are looking into the economic and technological factors. DEQ is in the process of developing an implementation package on how the numbers would be applied to take into account the economics of waste treatment, so they are not putting the communities in intractable positions

Dude Tyler requested that it would be nice for Council members to have access to Mr. Clark's PowerPoint presentation, and Mr. Clark stated it was available to DEQ staff who can post it on the WPCAC website.

EC and SAR standards

Bob Bukantis then gave a PowerPoint presentation on EC and Sodium Adsorption Ratio (SAR) standards. WPCAC has been very involved with the development and adoption of EC and SAR

standards in the past and may continue to be so in the future, so he wanted to provide some general context and history. No action is requested of the Council at this time.

The EC and SAR numeric standards were developed for the Powder River Basin in southeastern Montana, not for the whole state. Methane gas is biologically generated in coal seams which are relatively shallow and are saturated with water. Carbon dioxide is dissolved in the water, and the methane bubbles out when the pressure is released by pumping high volumes of water from the coal seams. The water is variable in quality, but it generally has a high electrical conductivity (EC) and very high sodium adsorption ratio (SAR).

EC is a measure of the amount of salt in water. The more salt in the water, the easier it is to conduct electricity, and it is inexpensive and effective to test. Increased EC in the irrigation water reduces crop productivity. Irrigation practices are very important because the salt will build up in the soil through evaporation and transpiration. To keep salt from building up to toxic levels, enough excess irrigation water needs to be applied to push the salt down below the root zone, which is known as the "leaching fraction." Also, the effect of rainfall needs to be taken into consideration.

While EC is basically the total amount of salt, SAR looks at the amount of sodium relative to calcium and magnesium. High SAR will force the clay particles apart and can cause infiltration problems which prevent water and air from entering the soil. In extreme cases, that soil can totally collapse and not be good for agriculture. Calcium and magnesium are good for the soil and tend to help hold the soil together. The surface waters of the Powder River Basin are mostly dominated by calcium, magnesium, and sulfate chemistry, and the coal bed seams tend to be sodium bicarbonate chemistry and has much higher sodium content. The SAR effects depend on soil sensitivity related to the amount of clay in the soil. Also, EC moderates the SAR, and there is concern for the "rainfall effect" as a large rainfall will quickly lower EC, but has little effect on SAR.

Discussion with WPCAC on EC and SAR began in 1999. In 2000, WPCAC supported the concept of developing Numeric Nutrient Standards. By 2001, DEQ proposed the standards, and in early 2002 the Department formally approached WPCAC with draft standards.. In July of 2002, rulemaking was initiated, and was extremely controversial and has remained so. In March of 2003, the Board adopted numeric standards for the Powder River Basin, and a narrative approach to non-degradation was taken. There was a "non-severability" provision that if any portion of the standards were struck down in court, the whole rulemaking would be null and void.

In 2005, DEQ were petitioned by groups in Southeastern Montana to make changes in how we regulate CBM produced water, and to provide minimum treatment requirements. There were specific changes proposed to the standards, most significantly to treat EC and SAR as harmful rather than narrative for purposes of non-degradation significance testing. When permit writers develop effluent limits, they ideally consider both technology-based limits (typically developed by EPA as Effluent Limitations Guidelines (ELG)) and water quality standards. However, currently, there are no effluent limit guidelines for the CBM industry. EPA is launching a process to consider developing ELGs for CBM right now. Part of this proposal was to direct the

Board to establish those guidelines. The heart of the petitioner's proposal essentially was to write a state rule that would require reinjection of CBM-produced water into shallow aquifers as a disposal method whenever feasible. When it was not feasible to reinject, it would have required technology-based MPDES permits and allowed for stock water use exception.

That petition was brought to the Department in May of 2005. In June of 2005, it was brought before this Council which commented to BER as not being in support of the petition. BER decided to initiate rulemaking and held meetings that fall in Lame Deer, Miles City, and Helena to hear testimony. In March of 2006, BER adopted modified non-degradation policy for EC & SAR.

The non-degradation policy protects high water quality by determining significant impact to water quality. There are different levels that are considered for carcinogens, toxics, harmful, and narratives. If there is a significant change in water quality, an authorization to degrade is required.

The 2003 standards rulemaking & 2006 modifications are both being challenged in the courts by industry & Wyoming. The Federal judge has instructed the parties to come up with a solution by early August. EPA is currently working with the State of Montana and the State of Wyoming to try to negotiate a resolution.

Terry McLaughlin stated that WPCAC had recommended against the proposed 2006 modifications. As it turns out, it seems the Council had some wisdom in trying to prevent litigation; however BER did not go with WPCAC's recommendation.

Public Comment

Dude Tyler invited Jon Metropoulos to make a comment. Mr. Metropoulos is an attorney with Gough, Shanahan, Johnson & Waterman of Helena who represents Fidelity Exploration & Production Company which is a coal bed natural gas developer in Montana. Jon commented that the water in Montana is potable and is suitable for drinking out of the aquifers. While it is usable by humans and stock, there is an issue when it is used undiluted on certain soil types. The State of Montana, as well as his client and other clients, have engaged in this long discussion to try to figure out what to do. In addition, he agreed with Roger that science should be the driver. He feels that the State of Montana in 2003 did let science drive the numeric standards. There were narrative standards in place before that, so it was not unregulated prior to that. The federal government has no numeric standards for EC and SAR. No state has numeric standards for EC. One state, South Dakota, has numeric standards for SAR. There is a reason for that. This argument was presented to BER, however they chose numeric standards. As Dave Clark had alluded to in his presentation, they did not even get through a permit cycle when the rules were changed again. Therefore, Mr. Metropolis stated it is very important to think about the job WPCAC does and the process of entities that do the regulating.

Mr. Metropoulos stated that his client, Fidelity Exploration and Production Company, is a subsidiary of a longstanding company in this state, Montana-Dakota Utilities (MDU). MDU paid for a program called AMPP (Agronomic Monitoring and Protection Program) which is totally voluntary, is offered to all of those who irrigate along the Tongue River, and provides them with

information about their soil types, their irrigation practices, their cropping patterns and types. It studied the impact of coal bed natural gas produced water discharges along the river, and it was felt that there would not be a big impact. The study was funded for 3 years by Fidelity and now by the Montana Board of Oil and Gas Conservation. Mr. Metropoulos stated the conclusion he has received from the scientists is that there is no noticeable impact on water quality to this point from coal bed natural gas discharge, although he pointed out that these discharges are at least 60 miles from Mr. Muggli's fields. He does think science should be the driver, and would like the opportunity for the scientists for the Tongue River Information Program to come to a WPCAC meeting to provide information.

Dave Galt from the Montana Petroleum Association stated he was at a presentation from two of the scientists in this study and stated that they had a lot of results and data to present. He also encouraged the Council to invite them and offered to facilitate a meeting between them and the Council.

Agenda Items for Next Meeting

Dude Tyler opened discussion for agenda items for the next WPCAC meeting. Bob Bukantis stated they were thinking of bringing the Conrad UAA back for proposed rulemaking. Terry McLaughlin stated if there was anything to do with EC and SAR or the CBM issue, it may be good to have the scientists of the Tongue River Information Program provide additional information. However, Bob Bukantis stated that the standards are currently being challenged in litigation and he did not see a reason to bring CBM-related issues to the Council at this time. Dude asked if Roger would be requesting it as an agenda item, and Roger stated he was not sure at this point. Dude stated it may be wise to hear the other viewpoint. Terry stated he would recommend that WPCAC avoid any presentations on either side until it becomes an item that the department wants to bring before the Council. Kathleen Williams suggested wastewater reuse.

Next meeting set for 8/22/2007.

Adjournment of the Meeting

Dude Tyler adjourned the meeting at 2:45 p.m.